

Patent claims

1. System for automatically monitoring respectively controlling of the position of at least one track-guided vehicle (22, 37, 40, 42, 43, 44, 45), especially rail-vehicle, and for the emission of warning signals, whereas in the vehicle preferably continuos the position of the vehicle (22, 37, 40, 42, 43, 44, 45) under use of transmitter/receiver-units (18, 19, 47) being provided in the area of the travelling over tracks respectively rails (21, 34, 35, 36) and for comparison with the determined respectively previously given data, referring to the route to be travelled on, is characterized that way, that by occurrence of dangerous situations, the vehicle (22, 37, 40 , 42, 43, 44, 45) sends warning signals at least to other vehicles (22, 37, 40, 42, 43, 44, 45) being in the local close zone, especially to those, which are travelling on a different way from the immediate passing over way.
2. System according to patent claim 1, is characterized that way, that from a vehicle (22, 37, 40, 42, 43, 44, 45) different warning signals corresponding to different dangerous situations are emitted.
3. System according to patent claim 1 or 2, characterized that way, that from the vehicle (22, 37, 40, 42, 42, 44, 45) furthermore preferably continuous data concerning the position and identification to other vehicles (22, 37, 40, 42, 43, 44, 45) being in the local close zone, and/or to control stations are transmitted.
4. System according to patent claim 1, 2 or 3, characterized that way, that the vehicle (22, 37, 40, 42, 43, 44, 45) receives preferably continuous from other vehicles (22, 37, 40, 42, 43, 44, 45) in the local close zone, data concerning the position and identification of these vehicles (22, 37, 40, 42, 43, 44, 45) and compares them with those determined and previously given data concerning the distance to be travelling on and checks if there are possible dangerous situations.
5. System according to one of the patent claims 1 to 4, characterized that way, that preferably continuos a check-up of the availability of the warning systems and/or a

check-up of the functionality of the transmitter-receiver units (18, 19, 47) implanted in the area of the travelling on tracks respectively rails (21, 34, 35, 36) is carried out and that by occurrence of a mistake, warning signals are emitted and/or a stop of the vehicle (22, 37, 40, 42, 43, 44, 45) is effected.

6. A system according to one of the patent claims 1 to 5, characterized in that way, that the transmitter-receiver units (18, 19, 47), which are implanted in the area of the travelling on tracks respectively rails (21, 34, 35, 36) are equipped with an encoding, e. g. geographic co-ordinates.
7. A system according to one of the patent claims 1 to 6, characterized in that way, that a storage at least of the data of the previous transmitter-receiver units is carried out, and these data together with identification-data of the vehicle (22, 37, 40, 42, 43, 44, 45) are emitted with the emission of warning signals.
8. A system according to one of the patent claims 1 to 7, characterized in that way that warning signals are transferred via preferably internationals alarm- or warning frequencies.
9. A system for the automatic monitoring and controlling of the position of at least one track-guided vehicle, especially rail-vehicle and for the emission of warning signals, whereas the vehicle (22, 37, 40, 42, 43, 44, 45) consists of at least one unit (2) for the monitoring and controlling of the position under use of transmitter-receiver units (18, 19, 47) which are integrated in the area of the travelling on tracks respectively rails (21, 34, 35, 36) and for comparison with the determined respectively previously given data referring to the way to be travelled on, characterized in this way, that furthermore a unit (2) is foreseen for emission and receiving of warning signals at least to other vehicles (22, 37, 40, 42, 43, 44, 45) being in the local close zone, especially to those travelling on another way than the way immediate passing over by occurrence of dangerous situations.
10. A system according to patent claim 9, characterized in that way, that the units (18, 19) implanted in the area of the rails respectively tracks (21, 34, 35, 36) at least consist of

one unit for emission of a signal that marks the position of the unit respectively an encoding, e. g. of geographic co-ordinates.

11. A system according to patent claim 9 or 10, characterized in that way, that additionally a unit for receiving and storage of keydata of the vehicle (22, 37, 40, 42, 43, 44, 45) is foreseen.
12. A system according to patent claim 9, 10 or 11, characterized in that way, that units are foreseen for the monitoring and controlling the position as well in the front area (22), especially in the locomotive or a driving element, as also in the back side (22'), especially at the last wagon.
13. A system according to one of the patent claims 9 to 12, characterized in that way, that in the vehicle (22, 37, 40, 42, 43, 44, 45) the units (2, 3, 4, 8) for the monitoring and controlling the position, for comparison with data referring to the distance and for emitting and for receiving of warning signals are coupled with a common control-and arithmetic unit (1) or preferably are integrated in this one.
14. A system according to one of the patent claims 9 to 13, characterized in that way, that the unit (2) for emission and for receiving of warning signals is coupleable with driving units of the vehicle (22, 37, 40, 42, 43, 44, 45) and by occurrence of dangerous situations an influence of driving parameters of the vehicle, e. g. a reducing the speed by braking, is feasible.
15. A system according to one of the patent claims 9 to 14 characterized in that way, that the units (18, 19, 47) implanted in the area of the tracks respectively rails (21, 34, 35, 36) consist of transponder and/or units for a laser marking.
16. A system according to one of the patent claims 9 to 15, characterized in that way, that the transfer of signals, especially warning signals, is carried out via wireless or cable connection, especially a glass fibre cable, respectively via the rail (21).
17. A system according to one of the patent claims 9 to 16, characterized in that way, that at respectively in the vehicle (22, 37, 40, 42, 43, 44, 45) additional displays, are

foreseen, especially light signals units, for the displaying of the functionalibility of the system.